

Scott Maddux, PhD
Center for Anatomical Sciences
Graduate School of Biomedical Sciences
Physiology & Anatomy
Email: Scott.Maddux@unthsc.edu



Area of Expertise

Compared to most primates, including fossil humans such as Neanderthals, humans living today possess extraordinarily flat faces. In fact, our “orthognathic” face is so distinctive, it’s one of the primary features used to identify our species, *Homo sapiens*. However, while universally recognized as a defining feature of our species, there is no consensus among scientists as to why we evolved such flat faces.

My lab employs cutting-edge technologies and innovating experimental modeling to investigate this question. Currently, we are using medical imaging (e.g., CT, MRI, laser scanning) and 3D modeling methods to better understand the role climate has played in shaping facial anatomy and thermoregulatory function in humans from around the globe. Additionally, we are collaborating with scientists in Russia to study anatomical and hormonal changes in the domesticated fox, which has shown reductions in facial length as a consequence of experimental selection for less aggressive behavior.

Qualifications

BA in Anthropology, Texas A & M University
MA in Anthropology, University of Iowa
PhD in Anthropology, University of Iowa

Recent Publications

Climatic adaptation in human inferior nasal turbinate morphology: Evidence from Arctic and equatorial populations

Marks, T. N., Maddux, S. D., Butaric, L. N. & Franciscus, R. G., Jul 2019, In: *American Journal of Physical Anthropology*. 169, 3, p. 498-512 15 p.

Three-dimensional anatomy of the anthropoid bony pelvis

Ward, C. V., Maddux, S. D. & Middleton, E. R., May 2018, In: *American Journal of Physical Anthropology*. 166, 1, p. 3-25 23 p.

Ecogeographic variation across morphofunctional units of the human nose

Maddux, S. D., Butaric, L. N., Yokley, T. R. & Franciscus, R. G., 1 Jan 2017, In: *American Journal of Physical Anthropology*. 162, 1, p. 103-119 17 p.

Zygomaxillary Morphology and Maxillary Sinus Form and Function: How Spatial Constraints Influence Pneumatization Patterns among Modern Humans

Maddux, S. D. & Butaric, L. N., 1 Jan 2017, In: *Anatomical Record*. 300, 1, p. 209-225 17 p.

Absolute humidity and the human nose: A reanalysis of climate zones and their influence on nasal form and function

Maddux, S. D., Yokley, T. R., Svoma, B. M. & Franciscus, R. G., 1 Oct 2016, In: *American Journal of Physical Anthropology*. 161, 2, p. 309-320 12 p.

Morphological Covariation between the Maxillary Sinus and Midfacial Skeleton among Sub-Saharan and Circumpolar Modern Humans

Butaric, L. N. & Maddux, S. D., 1 Jul 2016, In: *American Journal of Physical Anthropology*. 160, 3, p. 483-497 15 p.

Dental size reduction in Indonesian *Homo erectus*: Implications for the PU-198 premolar and the appearance of *Homo sapiens* on Java

Polanski, J. M., Marsh, H. E. & Maddux, S. D., 1 Jan 2016, In: *Journal of Human Evolution*. 90, p. 49-54 6 p.

Geographic Variation in Zygomatic Suture Morphology and its Use in Ancestry Estimation

Maddux, S. D., Sporleder, A. N. & Burns, C. E., 1 Jul 2015, In: Journal of Forensic Sciences. 60, 4, p. 966-973 8 p.

A 750,000 year old hominin molar from the site of Nadung'a, West Turkana, Kenya

Maddux, S. D., Ward, C. V., Brown, F. H., Plavcan, J. M. & Manthi, F. K., 1 Mar 2015, In: Journal of Human Evolution. 80, p. 179-183 5 p.

Sexual dimorphism in relative sacral breadth among catarrhine primates

Moffett, E. A., Maddux, S. D. & Ward, C. V., Dec 2013, In: American Journal of Physical Anthropology. 152, 4, p. 435-446 12 p.